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HEALTH PROGRAM IN THE KANSAS CITY SCHOOLS, 1919-21

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In this interesting transitional period during which school health work is emerging from the dimness of past ignorance into the consciousness of a present crisis, to meet which there is not available at present sufficient trained health service, the burden of carrying forward the program must of necessity fall largely upon the already overburdened teacher.

To devise a health service for grade children which is simple enough to be carried on by the teacher without the help of physician or nurse and which does not consume a prohibitive amount of the teacher's time and strength is indeed a problem.

The method devised for meeting this emergency and carried out by the Physical Education Department of the schools of Kansas City, Missouri, is here described.

THE PLAN

Since gain or loss of weight is the criterion of the child's condition which can most safely be applied by the laity, periodical weighing was made the foundation of the plan.

The Child Health Organization wall chart and tag, now issued by the United States Bureau of Education, were adopted because of the unique soundness, simplicity, and flexibility of the scheme. It was modified in certain minor details to suit local conditions.

All children were weighed and measured three times yearly, and all who were as much as 10 per cent below average weight for height were weighed every month. Ten per cent below the average was used as the criterion of malnutrition in these schools because of insufficient help to extend the health service to all who needed it. It served at least as a dragnet to catch the cases most in need of attention. This experience has led to the conviction that the same health service given to the 10 per cent underweight group should be extended to all underweight children.

The weight-height-age tables of Dr. Thomas D. Wood were used for this work, though others are equally reliable. The new weight standards in preparation by a special group under the leadership of Dr. L. Emmett Holt will be adopted as soon as available. These tables will be the result of pooling all existing weight-height data of the authors of all the different tables in use, and the retabulation of them by Dr. Bird T. Baldwin, of the Iowa Child Research Station. While the new tables will probably not differ radically from the ones used, they will have the immense advantage of rendering all measurements comparable.

After the children were all weighed, measured, and divided into groups according to their agreement with, or divergence from, the standards, the grade teacher used the weight findings as a basis for her classroom teaching of hygiene and for individual follow-up work. The few school nurses at first available and corrective specialists in the Physical Education Department concentrated their efforts upon those found to be 10 per cent below weight, since the force was then insufficient adequately to care for all substandard children.

THE METHOD

1. Equipment used:

a) A pair of scales in every building, placed in an office, cloak room, or some other place accessible to all the rooms.

b) A measuring rod, on scales if possible; otherwise, two yardsticks tacked against a flat wall. The yardsticks are preferable to tape lines, as there is more or less stretching of tapes, especially with continuous use, unless they are pasted to a flat measuring board against the wall. A book or a block is placed on top of the child's head, since a ruler or flat object invariably slants more or less. Still better is the square used by Dr. Baldwin.

c) Classroom weight chart from the United States Bureau of Education. Those pupils as much as 10 per cent below weight were checked in red; those underweight, but less than 10 per cent, in blue.

d) Individual weight tags similar to those from the United States Bureau of Education. The Kansas City tags, however, are of three colors: white for normal weights or above; blue for underweight, but less than 10 per cent; red for those 10 per cent or more below average weight for height.

e) Teacher's desk record.

f) *A Suggested Health Program for a School Child's Day.* A folder addressed to parents giving minimum essentials of child health.

g) Form letter to be sent to parents of underweight children.

2. Procedure of weighing and measuring:

a) The child removed sweater or coat and shoes.

b) The height was determined with the child standing with head and heels against measuring rod.

c) The weight was noted with the child standing quietly on center of scale platform.

The weighing was done by the principals, classroom teachers, special teachers of physical training, and nurses. The class teachers made the records, while the nurses and physical-training teachers did the measuring and weighing.

d) Weight and height were recorded on classroom weight chart and individual tag.

e) Normal weights were computed and entered on weight chart and individual tag.

f) The teacher transferred all those 10 per cent or more underweight to her desk record and added all the supplementary information she could obtain regarding each case.

g) The teacher saw that each child carried home his tag and, in addition, with every child 10 per cent underweight, sent the letter of information for parents of red-card children, and a copy of *A Suggested Health Program for a School Child's Day.*

3. Follow-up work:

a) Classroom teaching. The informal discussion of the weight findings and the friendly, co-operative search for the causes of underweight turned every class into a nutrition class, and every room into a health club.

The method of presenting the health teaching was left to the individual teacher. The result was both gratifying and interesting as it called out many original and some exceedingly clever efforts. Among the various devices used may be mentioned morning health inspection; health poster; health projects, such as the serving of the midsession milk; health material used as subject-matter for work in language, the compositions taking the form of original plays, rhymes, songs, conversations, discussions, extemporaneous speeches, etc.

One of the original jingles proved so contagious that it was generally adopted as a weighing slogan:

Card of white—All right!
Card of blue—Won't do!
Card of red—Danger ahead!

The dramatic effect of this little rhyme shouted out like a college cheer by the different groups of pupils in a room or in a whole school was really inspiring.

The primary children found especial delight in one of their compositions which emphasizes the most commonly neglected health essentials.

This little pig wants oatmeal,
Cooked one hour as you know.
This little pig wants Grade A milk
With cream on, to make him grow.
This little pig cries "Greens! Greens! Greens!"
They have the iron in to make his blood red.
This little pig wants fruit every day,
And this one goes early to bed.
While they all drink lots of
W-A-T-E-R!

The term "health confessional" might appropriately be applied to the manner in which some of the teachers ferreted out those who had been guilty of attending night movies, sleeping with closed windows, or drinking coffee or tea.

b) Accessory feeding. One of the projects which the teachers carried out with surprising success was that of providing midsession milk for underweight children. All the children in the primary grades and all underweight children in the other grades were requested to bring money to pay for the milk. If any child was unable to do this, his milk was paid for from the Junior Red Cross Milk Fund.

The results of this supplementary feeding were so spectacular and immediate in the first schools trying it that the movement spread rapidly from school to school. At the close of the year approximately all of the eighty-seven elementary schools were systematically carrying this on, and the principals expressed themselves as feeling richly repaid for the effort and trouble by the improvement in the physical condition and academic work of the children.

c) The school lunch: The noonday lunch for pupils who live too far away to go home at noon was established in almost every school. A simple and practical noon lunch consists of sandwiches, fruit, milk, and hot soup or cocoa.

4. Results:

a) Stimulation of original and superior effort on the part of the teachers in the promotion of the health program. The weighing also afforded an acid test of the effectiveness of the teacher's instruction. She became as "keen" to see her ratio of underweight disappear as did the children themselves.

b) Stimulation of interest in their own condition on the part of the children.

c) Concentration of the effort of the various health agencies at one effective point of leverage, the increase in weight as the measure of health gains.

d) Securing the definite co-operation of the home.

e) Mass reduction in percentage of undernourished pupils. The first complete weighing, September, 1919, showed 30 per cent of the school children to be as much as 10 per cent below average weight. In June, 1921, this had been reduced to 19 per cent. The story of the fluctuation shown in the six complete weighings so far tabulated is too complicated to attempt in this article.

It is an interesting fact that every vacation brings a general loss in weight. It is equally instructive to find that careful study does not give us any basis for assuming that children "naturally lose" at any season. In both years there occurred an increase in the number of red-card pupils (10 per cent below normal) in June, while the January weighing in 1921 touched the lowest point thus far attained—15 per cent, exactly one-half of the original proportion of undernourished pupils. Since we had failed to profit by last year's experience (1920), the spring loss was repeated in 1921. We have the immense advantage now, however, of having data with which to meet the "Oh well, we must expect children to lose in the spring!" with which the responsibility was shrugged off in 1920. Thanks to the individual records kept on the teacher's desk record of monthly weighings of all children as much as 10 per cent below standard, we have been able to explain the June increase in the number of undernourished children. The pupils upon whom the health service was concentrated (the red-card group) gained steadily all year, relatively few losing at all, while the blue-card group (less than 10 per cent underweight, with whom no intensive work was done) lost enough to make up the difference and 4 per cent additional.

There are certainly no facts to prove that a boy 9 per cent below weight should "naturally lose" in the spring, while his brother 10 per cent below standard gains at this time. It is also difficult to prove that children should "naturally lose" during the last half of August and "naturally gain" during the first half of September.

THE SCHOOL NURSE

The most important member of the health service of any school system, the school nurse, made her appearance in the spring of 1919. There were only four of them to serve forty thousand school children. So amply did they justify the expenditure for their salaries that the new year (1921) begins with thirty-five full-time school nurses and a supervisor of nurses. The history of this, perhaps the most important, accomplishment of the two and a half years of the health program may be of interest.

In the winter of 1919, Dr. Fred Burger, head of the Department of Physical Education, feeling the need for a health program more complete than the course of physical training already afforded, added a supervisor of hygiene to his corps of assistants.

After a preliminary weight-height survey of fifty-five grade schools which revealed the existence of an unsuspected health emergency, a health study[1] was made in one school in order to determine the most effective point of leverage at which to apply the very limited amount of funds available for a health program.

The results indicated the outstanding importance of the health work, the necessity for the school nurse, and the value of the midsession nourishment supplied to these children.

The recommendation was therefore made that the Board of Education (*a*) purchase scales for every school and instal the Child Health Organization plan of wall chart and tag, (*b*) establish a corps of school nurses, (*c*) authorize the midsession serving of milk to underweight pupils, and (*d*) instal vacuum cleaners in the school buildings. The first three recommendations were favorably acted upon and the fall of 1919 saw their inauguration.

In order to fortify his demand for an adequate number of nurses, the director assigned each of them (ten in September, 1920) to a number of schools, so that each grade school had a share of the time of one nurse. This was naturally a very trying year for the nurses, but so well did they rise to the demands made upon them that each principal urged the employment of a larger corps. An additional nurse was employed and assigned to one school, the Horace Mann, to demonstrate the advantage of a reasonable number of pupils to each nurse. The result of this demonstration helped materially to bring about the generous increase lately granted. The fall of 1921 begins with approximately one nurse to every thirteen hundred pupils.

THE HEALTH EXHIBIT

The health exhibit was devised as a means of carrying as much information and inspiration to teachers and pupils as could be crowded into a small compass of space and time.

It consisted of health charts, models, dolls, and wax foods, and was made as flexible and elastic as possible so that it could be adapted to any type of room, or to any school program. The exhibit was in charge of the supervisor of hygiene, who took it to one school after another for a week at a time to illustrate her teaching.

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[1] Maud A. Brown, "A Study of the Malnutrition of School Children," *Journal of the American Medical Association*, June 2, 1920.

There were two popular features of the exhibit: (1) The wax models of foods in hundred-calorie portions. The pupils arranged ideal meals with these models, following a few simple directions for determining a properly balanced ration. During the process of getting the three meals the whole health program of the day was reviewed and linked together. These models were also used in the game of "Cafeteria" very cleverly devised by one of the grade teachers. (2) The charts, selected by the children themselves. Through private funds the supervisor of hygiene bought all the health charts and posters then on the market. Most of them were put up, and at the end of the first week the process of elimination was begun in the light of the carefully observed reaction of the children. The pupils in each school were asked to write the supervisor a letter at the end of the week's visit of the health exhibit, and these thousands of letters determined the direction in which each feature of the exhibit was developed.

The teachers used the suggestions brought to them by the exhibit to vitalize their teaching of hygiene during the whole year. Many health projects of great interest have arisen from the visit of the exhibit.

The last section to be added to the exhibit grew out of the enthusiastic interest of the pupils in the suggestions carried in the charts for a sanitary survey of their own school plants, homes, and neighborhoods. A set of instruments for measuring illumination, humidity, materials for preparing cultures from door knobs and banisters, and for making dust counts from the schoolroom air, met with most enthusiastic reception from the children. The City Board of Health co-operated generously in making the counts and developing the cultures.